

## t63\_moebius1

(TMTVs5ZdQpEepnA3qRASwEbHht3nDwuQqaZ)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_int\_2 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $r1\_nat\_d : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_moebius1 : \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow ((r1\_nat\_d X1 X0) \Rightarrow ((r1\_xxreal\_0 X0 k6\_numbers) \vee (r1\_xxreal\_0 X1 X0)))) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Rightarrow ((v1\_xboole\_0 X0) \vee ((v2\_xxreal\_0 X1) \vee (v3\_xxreal\_0 X0))))) \quad (2)$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0 X0) \wedge (v7\_ordinal1 X0)) \Rightarrow (r1\_nat\_d (k6\_moebius1 X0) X0) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2.(v1\_xxreal\_0 X2) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X2)) \Rightarrow (r1\_xxreal\_0 X0 X2)))) \quad (4)$$

Assume the following.

$$m1\_subset\_1 k1\_xboole\_0 k4\_ordinal1 \quad (5)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow((X0 \in k2\_finseq\_1\ X1)\Leftrightarrow((r1\_xxreal\_0\ np\_1\ X0)\wedge(r1\_xxreal\_0\ X0\ X1)))) \quad (6)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow((\neg r1\_xxreal\_0\ np\_1\ X0)\Rightarrow(X0 = k6\_numbers)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0\ X0)\wedge(v1\_xxreal\_0\ X1))\Rightarrow(r1\_xxreal\_0\ X0\ X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ X0\ X1)\Leftrightarrow(m1\_subset\_1\ X2\ X1)) \quad (9)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (10)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (11)$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge(v7\_ordinal1\ X0))\Rightarrow(\neg v1\_xboole\_0\ (k6\_moebius1\ X0)) \quad (12)$$

Assume the following.

$$(\neg v1\_xboole\_0\ k4\_ordinal1)\wedge(v3\_ordinal1\ k4\_ordinal1) \quad (13)$$

Assume the following.

$$v1\_xboole\_0\ k1\_xboole\_0 \quad (14)$$

Assume the following.

$$\neg v1\_xboole\_0\ k1\_numbers \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ X0\ X1)\Rightarrow(m1\_subset\_1\ X2\ X0)) \quad (16)$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge(v7\_ordinal1\ X0))\Rightarrow(m2\_subset\_1\ (k6\_moebius1\ X0)\ k1\_numbers\ k5\_numbers) \quad (17)$$

Assume the following.

$$m1\_subset\_1 \ k5\_numbers \ (k1\_zfmisc\_1 \ k1\_numbers) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski \ X0 \ X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \quad (19)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 \ X0 \ k4\_ordinal1) \Rightarrow (v7\_ordinal1 \ X0) \quad (20)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 \ X0) \Rightarrow (v1\_xxreal\_0 \ X0) \quad (21)$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0 \ X0) \wedge (v2\_xxreal\_0 \ X0)) \Rightarrow ((\neg v1\_xboole\_0 \ X0) \wedge ((v1\_xxreal\_0 \ X0) \wedge (\neg v3\_xxreal\_0 \ X0))) \quad (22)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 \ X0) \Rightarrow (v1\_xxreal\_0 \ X0) \quad (23)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 \ X0) \Rightarrow (v1\_xreal\_0 \ X0) \quad (24)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 \ X0 \ k5\_numbers) \Rightarrow (\neg v3\_xxreal\_0 \ X0) \quad (25)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 \ X0 \ k1\_numbers) \Rightarrow (v1\_xreal\_0 \ X0) \quad (26)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((\neg v1\_xboole\_0 \ X0) \wedge (m2\_subset\_1 \ X0 \ k1\_numbers \ k5\_numbers)) \Rightarrow \\ (\forall X1.((v7\_ordinal1 \ X1) \wedge (v1\_int\_2 \ X1)) \Rightarrow (r1\_tarski \ (ReplSep \\ (toset \ (\lambda X2 : \iota.m2\_subset\_1 \ X2 \ k1\_numbers \ k5\_numbers)) \ (\lambda X2 : \\ \iota.(\neg r1\_xxreal\_0 \ X2 \ k6\_numbers) \wedge ((r1\_nat\_d \ X2 \ (k6\_moebius1 \\ X0)) \wedge (r1\_nat\_d \ X1 \ X2))) \ (\lambda X2 : \iota.X2)) \ (k2\_finseq\_1 \ X0))) \end{aligned}$$